Course title: Modelling of Internet with Random Graphs	Neptun code: GEMAK417-a

Course coordinator: Dr. József Túri, PhD, associate professor

type of lesson and number of lessons: **lecture (2)**

method of evaluation: colloquium

curriculum location of the subject: (autumn/spring semester): autumn and spring

pre-study conditions *(if any)*: -

The task and purpose of the subject:

The aim of the course is to introduce students to the modeling of the Internet using random graphs.

Course description:

In the course, students learn about modeling the Internet using random graphs. The course provides an overview of the better-known models. The model discussed in the most detail in the course is the Barabási-Albert model, as we use it to model the Internet, but several models are presented regardless.

Required literature:

1. Barabási, Albert László; Albert, Réka, Emergence of Scaling in Random Networks. Science, Vol. 286 (15. October 1999)

Recommended literature:

1. Bacsó, Gábor; Túri, József, An Enumeration Approach to Network Evolution. Miskolc Mathematical Notes, Vol. 24 (2023), No. 2, pp. 625–634 doi: 10.18514/MMN.2023.4133

2. Bollobás, Béla, Random graphs, ser. Cambridge Studies in Advanced Mathematics. Cambridge University Press, 2011. doi: 10.1017/CBO9780511814068